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FISHERIES AND WILDLIFE LEGISLATION AND AMENDMENTS

SEPTEMBER 30 (legislative day, SEPTEMBER 26), 1988.—Ordered to be printed

Mr. BURDICK, from the Committee on Environment and Public Works, submitted the following

REPORT

[To accompany H.R. 4030]

The Committee on Environment and Public Works, to which was referred the Act (H.R. 4030) to reauthorize and amend certain wildlife laws, and for other purposes, having considered the same, reports favorably thereon with amendments and recommends that the Act as amended do pass.

GENERAL STATEMENT

This legislation amends the Lacey Act, the Klamath River Basin Restoration Act, and the Migratory Bird Hunting and Conservation Stamp Act; reauthorizes and amends the Sikes Act, the Fish and Wildlife Conservation Act of 1980, and the Wetlands Loan Act; conveys Federal fish hatcheries to the States of Georgia, Kentucky, New Hampshire and Wisconsin; authorizes expansion of Kilauea Point National Wildlife Refuge in Hawaii; provides for a study of the Russian River basin in California; authorizes the Secretary of the Interior to relinquish to a State the exclusive legislative jurisdiction of the United States over National Wildlife Refuge and National Fish Hatchery lands; facilitates removal of a shipwreck, which is threatening sea turtle nesting habitat under U.S. jurisdiction, by allowing the Army Corps of Engineers to transfer title to a barge directly to any private entity; and includes Massachusetts Bay (Cape Cod to Cape Ann) in the National Estuary Program under the Clean Water Act.

S323-18

PURPOSE AND BACKGROUND

The purpose of the bill, as reported, is to enhance the ability of the Federal Government and the States to conserve fish and wildlife resources.

Title I of the bill makes a series of amendments to the Lacey Act Amendments of 1981 which are intended to clarify the original intent of that legislation and to address enforcement problems that have been encountered since its enactment. The 1981 statute provides Federal protection for the thousands of fish, wildlife, and plant species subject to State, other Federal, or foreign laws. It imposes Federal penalties for engaging in interstate or foreign commerce in fish, wildlife, or plants that have been taken, possessed, transported, or sold in violation of any State, Federal, or foreign law.

The second title of the bill reauthorizes and amends the Sikes Act. Title I of the Sikes Act authorizes the U.S. Fish and Wildlife Service to assist the Department of Defense in planning, developing, maintaining and coordinating fish and wildlife restoration, rehabilitation and public recreation programs on military reservations. Such programs must be carried out in accordance with a cooperative plan agreed upon by the defense installation commander, the appropriate State wildlife agency, and the Service. Title II of the Sikes Act authorizes development of conservation programs on lands administered by the Department of Energy, the NASA, the U.S. Forest Service, and the BLM. The bill amends this latter title to encourage greater participation by the States in enhancing fish and wildife conservation and outdoor recreation on Federal lands.

Title III of H.R. 4030 amends the Wetlands Loan Act to authorize, until expended, appropriations of the $2.65 million remaining out of the $200 million authorized through fiscal year 1988. This title also would assist the U.S. Fish and Wildlife Service in its efforts to raise wetlands acquisition money for the Migratory Bird Conservation Fund through sale of Duck Stamp reproductions.

Title IV addresses the conveyance of National Fish Hatcheries from the U.S. Fish and Wildlife Service to States and a State university. These hatcheries are ones that the Service has determined do not contribute primarily to high priority Federal fisheries responsibilities and that the Service has no present or foreseeable need for this hatchery. The hatcheries to be conveyed currently are being operated and maintained by the States and the State university under long-term agreements with the Service.

Title V of H.R. 4030 is identical with one exception to S. 1193, a bill reported by the Committee and passed by the Senate to add lands to Kilauea Point National Wildlife Refuge in Hawaii. The change made by this legislation is that the authorization level is decreased from $4 million to $2.6 million. On March 8, 1988, the U.S. Fish and Wildlife Service used $1.7 million that had been appropriated to acquire the lands identified by this legislation. It is estimated that approximately $900,000 is needed to construct and maintain a fence and access foot trail for the new lands. The authorization provided by title V of this bill will allow the necessary appropriations for these purposes.

Title VI makes two technical changes to Public Law 99-552, the Act providing for restoration of Klamath River Basin fishery resources, concerning the operations of the Klamath Fishery Management Council and Klamath River Basin Fisheries Task Force.

Title VII authorizes a cooperative study of fishery resources and fishery habitats within northern California's Russian River Basin by the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and if the State of California chooses to participate, its Department of Fish and Game.

Title VIII reauthorizes and amends the Fish and Wildlife Conservation Act of 1980. Historically, funding of State fish and wildlife programs has been provided by hunters and fishermen, primarily through their purchase of licenses. In addition, the key cooperative State/Federal fish and wildlife programs established by the Pittman-Robertson, Dingell-Johnson and Wallop-Breaux Acts are funded by Federal excise taxes on arms, ammunition, fishing equipment, and motorboat fuels. Most management by the States consequently has focused on those species that traditionally have been subject to fishing and hunting.

In 1980, with the passage of the Fish and Wildlife Conservation Act, the Congress sought to encourage the conservation of fish and wildlife species that are not ordinarily subject to hunting and fishing (over 89 percent of all species in the United States). The Act authorized annual appropriations of $5 million for development by the States of comprehensive management plans to benefit these so-called "non-game" species.

The Act also required the U.S. Fish and Wildlife Service to "conduct a comprehensive study to determine the most equitable and effective mechanism for funding [the implemention of] State conservation plans." The Fish and Wildlife Service completed this study in 1984 but did not recommend any initiative for funding the Act. No money for development of the State comprehensive plans has ever been requested by the Administration or appropriated by the Congress. The authorization to appropriate funds for development of State plans expired at the end of fiscal year 1988.

The Fish and Wildlife Conservation Act of 1980 is amended by this legislation to improve conservation of migratory non-game birds. Nearly all of the migratory birds for which the U.S. Fish and Wildlife Service is responsible are neither hunted nor protected under the Endangered Species Act. Under the Migratory Bird Treaty Act, the Service is responsible for the conservation of 832 species of North American birds. More than 90 percent of these are so-called "non-game" species.

The principal action taken to conserve these species has been to protect them from harvesting. Most of the attention is going toward hunted or endangered species. Although $500,000 was appropriated for non-game migratory bird research by the U.S. Fish and Wildlife Service in fiscal year 1988, the proportion of the Service's resources allocated to non-game migratory bird species has declined significantly over the last decade.

Many nongame migratory bird species are declining. In 1987, the Service identified 30 such bird species that showed evidence of decline. Moreover, another 407 species were considered for inclusion on the list of those declining.

This bill would provide additional statutory direction to the Fish and Wildlife Service to improve the Service's conservation of migratory nongame birds. Currently, the Fish and Wildlife Conservation Act of 1980 merely encourages the Service to use its authorities to conserve these species to the maximum extent practicable.

Title IX of H.R. 4030 authorizes the Secretary of the Interior to relinquish exclusive legislative jurisdiction over National Wildlife Refuge and National Fish Hatchery lands, and authorizes the Secretary of the Army to transfer ownership of a barge to a private entity to assist in the removal of a shipwreck and in the protection of sea turtle habitat.

Currently many U.S. Fish and Wildlife Service lands are subject to exclusive legislative jurisdiction. This means that State and local governments cannot enforce their laws in these areas. Exclusive legislative jurisdiction has caused law enforcement problems because the U.S. Fish and Wildlife Service does not have adequate enforcement resources and needs local law enforcement assistance to prevent, control or investigate crimes on its lands. Under this bill, the United States would retain legislative jurisdiction to enforce laws on Service lands but would be able to share this authority with States and local governments.

The shipwreck in question has lain for three and one-half years on a sensitive coral reef off Mona Island, Puerto Rico, which is the most important breeding and feeding habitat under U.S. jurisdiction for endangered hawksbill and green sea turtles. The wreck site is exposed to constant heavy seas and high winds from frequent storms; the wreck moves continuously under these forces, causing extensive damage and making it hazardous and difficult to remove.

The DeLong pier barge offers the best opportunity for prompt and environmentally, non-damaging removal. Customary removal methods would use floating equipment moored by multiple cables, chains and anchors streamed outside the already damaged area and would cause extensive further coral damage. The DeLong pier barge, in contrast, would stand alongside the wreck on legs that would impact only those portions of the reef that already have been damaged by the wreck.

Timely action is important because the best weather for removal of the wreck occurs during late October, November, and early December. The deteriorating condition of the wreck makes it unlikely that it will survive another storm season.

Normal contract, and certainly routine disposition, procedures could not be expected to be completed before this December. All attempts at expedited disposition have been exhausted without success. Outright grant of the barge by the Corps to the removing entity under this amendment provides the best assurance of timely action.

Moreover, the removal of the wreck and protection of endangered species of sea turtles would be accomplished without cost to the United States. The barge has little value, is of no use and a continuing expense to the Corps of Engineers, and will soon be disposed of in any event, if the amendment is not adopted.

Because the jack-up barge method would be faster, less environmentally damaging and about one-third as costly as other methods ($3 million versus $8 million to $12 million), the insurers of the *A.*

Regina's owners have agreed to pay the full cost of removal and other environmental damages. Accordingly, under the amendment the United States would pay no removal costs. In contrast, if the United States were to remove the wreck and sue the insurers for reimbursement of the removal costs, the United States would run the risk of obtaining inadequate recovery of its costs. It also is likely that the cost of such litigation would considerably exceed the value of the barge.

Title X of the bill amends the Clean Water Act to include Massachusetts Bay in the National Estuary Program.

SECTION-BY-SECTION ANALYSIS

Title I—Lacey Act Amendments

Section 101 clarifies the list of activities subject to the penalties of the Lacey Act by including specifically the transportation or sale of wildlife that occurs in violation of another Federal law.

This section of title I also defines the term "sale" as it is used in the Lacey Act to include, as set forth in the Committee's report on the 1981 Act, the providing of guiding services used in the illegal taking of wildlife or the issuance of illegal hunting or fishing licenses. These activities are subject to the enforcement provisions of the Lacey Act.

Section 101 amends the false labeling provision of the Act to include falsifications related to articles intended to be imported, exported or transported. Current coverage extends only to articles once they have actually been imported, exported or transported. This section clarifies that false labeling of fish and wildlife products is an offense under the Lacey Act regardless of whether the wildlife was taken in violation of an underlying Federal or State law.

Section 102(a) provides that a civil penalty may be assessed for a knowing violation of the false labeling provision. Section 102(b) gives effect to the false labeling provision by requiring that a felony violation of the provision be "knowing" and that it be an offense involving importation or exportation of fish, wildlife or plants, or involving the sale or purchase of fish, wildlife or plants that have a market value greater than $350.

Section 103 amends the civil penalty process under the Lacey Act to make it consistent with district court procedures by substituting the term "complaint" for the term "notice of appeal".

Section 104 authorizes persons enforcing the Act to arrest without a warrant for any offense committed in their presence and for commission of a felony if there are reasonable grounds to believe that a felony has been or is being committed. This section also explicitly authorizes warrantless searches and seizures.

Title II—Sikes Act Amendments and Authorization

Section 201 of H.R. 4030 amends the Sikes Act to allow States to use the fees collected under the Sikes Act to provide public access to program lands that have no existing public access for enhancement of outdoor recreation and wildlife conservation. Such fees should be used by State or Federal agencies to acquire lands or interests therein only from willing sellers or donors. However, con-

demnation of such lands or interests therein should continue to be used where necessary to clear title or settle price.

It is expected that only a limited portion of the fees collected on any parcel of Federal land subject to a Sikes Act agreement will be used for the acquisition of public access and that the remainder will continue to be used for the enhancement of the fish and wildlife resources on those lands.

Section 202 of the bill extends the authorization for appropriations to carry out Titles I and II of the Sikes Act through fiscal year 1993.

Title III—Wetlands Loan Fund Extension; Migratory Bird Hunting Stamp Act Amendment

Section 301 of H.R. 4030 extends the authorization for appropriations under the Wetlands Loan Act until all authorized funds are expended. The current authorization will expire at the end of this fiscal year. Of the $200 million authorized under the Act, there remains $2.56 million to be appropriated.

Section 302 amends the Migratory Bird Hunting and Conservation Stamp Act to allow the Secretary of the Interior to recover from sales of duck stamp reproductions the costs of promoting the duck stamp program. The 1984 amendments to the duck stamp act authorized the Fish and Wildlife Service to allow commercial reproduction of the stamp and to collect royalties from anyone who reproduces it for profit. The royalties are deposited in the Migratory Bird Conservation Fund for wetlands acquisition. The amendment made by this section of the bill allows the royalties to be used to cover the cost of marketing the duck stamp rather than requiring the Service to use appropriated funds for this purpose.

Title IV—Conveyance and Naming of Fish Hatcheries

Sections 401, 402, and 403 of this title convey the Cohutta National Fish Hatchery in Georgia to the University of Georgia without consideration. The property reverts to the United States if the University of Georgia uses it for any purpose other than fisheries research and education.

Section 404 renames the Millen National Fish Hatchery in Georgia the Bo Ginn National Fish Hatchery and Aquarium.

Sections 405, 406, and 407 are identical to S. 1143, a bill reported by the Committee and passed by the Senate related to conveyance of three National Fish Hatcheries to the States of Kentucky, New Hampshire and Wisconsin. The provisions convey Frankfort National Fish Hatchery (NFH) to the Commonwealth of Kentucky; retain National Forest Service ownership of land being used for a National Fish Hatchery transferred to the State of New Hampshire; and convey Lake Mills National Fish Hatchery to the State of Wisconsin. In each case title to ownership to the hatchery reverts to the United States if the facility is ever used for purposes other than fisheries management.

Title V—Acquisition of Lands Adjacent to Kilauea Point National Wildlife Refuge

Title V contains the text of S. 1193, a bill reported by the Committee and passed by the Senate to authorize the addition of lands

to the Kilauea Point National Wildlife Refuge in Hawaii, with an amendment to decrease the authorization level from $4 million to $2.6 million. S. 1193 and this title require the U.S. Fish and Wildlife Service to construct a fence and foot trails on the refuge to provide additional wildlife protection and public access.

Title VI—Amendments to Act Providing for Restoration of Klamath River Basin Fishery Resources

Title VI makes several minor and technical changes to the Klamath River Basin Restoration Act concerning the operations of the Klamath River Fisheries Management Council and the Klamath River Basin Fisheries Task Force established by that Act. Section 601 allows Task Force members in addition to Council members to be reimbursed for travel expenses out of existing funds (no more than 50 percent Federal sources). Section 602 modifies the internal voting procedures of the Task Force and Council to allow members of these two entities to determine voting procedures. Any comprehensive long-term plan, policy or recommendation required by the law would continue to require a unanimous vote of those present.

Title VII—Russian River Study

This title authorizes $2 million during fiscal years 1990 and 1991 for a cooperative study of fishery resources and fishery habitats with northern California's Russian River Basin by the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and if the State of California chooses to participate, its Department of Fish and Game. The purpose of the study is to develop recommendations for restoring and conserving the Basin's fisheries. The State of California may not participate in the study or in developing recommendations unless it it willing to pay one-third of the cost of the study. The remaining two-thirds of the study are to come from the Federal funds appropriated under the legislation's $2 million authorization.

Title VIII—Amendments to the Fish and Wildlife Conservation Act of 1980

Section 801 of this title amends section 11 of the Fish and Wildlife Conservation Act of 1980 to authorize appropriations of $5 million annually through fiscal year 1990 for purposes of making reimbursements under section 6 of the Act to States for development and implementation of conservation plans and for administration under section 8 of the Act.

Section 802 requires the Secretary of the Interior to undertake activities to conserve migratory nongame birds, i.e. migratory birds that are not ordinarily hunted and that are not listed as endangered or threatened. The amendment requires (1) monitoring of migratory nongame bird species; (2) identification of the effects of environmental changes and human activities on such species; (3) identification of species that without additional conservation actions are likely to become candidates for listing under the Endangered Species Act; and (4) identification of conservation actions to assure that declining migratory nongame bird species do not reach the point where such listing is necessary. A report that presents the re-

sults of these activities is required to be submitted to Congress every five years.

This provision is intended to assist the Secretary in fulfilling U.S. responsibilities for the conservation of migratory birds under existing statutes and treaties. Consequently, the Secretary is expected to provide funding to implement section 802 of this bill from those resources allocated to meet these responsibilities.

Title IX—Miscellaneous Amendments

Section 901 provides the Secretary of the Interior with authority to relinquish to a State the exclusive legislative jurisdiction of the United States over certain areas in the National Wildlife Refuges and National Fish Hatcheries. The amendment does not affect the proprietorial jurisdiction of the Service to enforce its regulations and manage refuge and hatchery lands.

Section 902 amends section 115, Paragraph (3) of the Water Resources Development Act of 1986, which declares the importance, at full Federal expense if necessary, of removing the wreck of a ship (*A. Regina*). This section of H.R. 4030 authorizes the Secretary of the Army to transfer the title to a DeLong pier barge directly to a private entity for use in removing the wreck.

Title X—Protection of Massachusetts Bay

Title X of H.R. 4030, is substantially similar to S. 2718, a bill to amend the Clean Water Act to include Massachusetts Bay in the National Estuary Program.

Section 1002 defines Massachusetts Bay to encompass Massachusetts Bay, Boston Harbor and Cape Cod Bay, an area extending from Cape Ann in the north to Cape Cod in the south and including several major eastern Massachusetts watersheds.

Section 1003 provides the findings and purpose of this title. The estuarine system serves more than four million people, supports an important commercial fishery for lobster, finfish and shellfish, and provides important recreational opportunities for fishing, swimming and boating.

The major sources of pollution include discharges from municipal treatment plants of several cities, including Boston, which contain wastes from thousands of industrial facilities. Other sources of pollution include untreated wastes from combined sewer overflow pipes, surface runoff, and the dumping of a range of materials at sites designated by the Corps of Engineers.

Section 1004 amends section 320(a)(2)(B) of the Clean Water Act by including Massachusetts Bay in the list of estuaries of national significance. Including Massachusetts Bay into the estuaries program would enhance current efforts to improve the water quality of the Bay by (1) convening an integrated governmental effort to develop a long-term restoration plan for the Bay to maximize the numerous separate cleanup efforts currently underway along the coastline; and (2) increasing the efficient use of current sources of funding for funding for ongoing monitoring and research efforts.

To date, $2 million of payments in lieu of penalties by the Massachusetts Water Resources Authority in conjunction with the Boston Harbor litigation have been placed into a specially dedicated trust fund and targeted for a new monitoring program and other remedi-

al activities for the Bay. This fund is designed to foster long-term remedial efforts and would mesh well with the amendment's designation of the Massachusetts Bay area as an Estuary of National Significance.

Section 1005 requires the Administrator of the Environmental Protection Agency and the Governor of Massachusetts to undertake to identify and make available sources of funding within one year of enactment to support activities pertaining to Massachusetts Bay under section 320 of the Clean Water Act.

DEPARTMENTAL REPORT

The Committee on Environment and Public Works received the following Departmental Report:

U.S. DEPARTMENT OF THE INTERIOR,
FISH AND WILDLIFE SERVICE,
Washington, DC, August 22, 1988.

Hon. GEORGE MITCHELL,
Chairman, Subcommittee on Environmental Protection, Committee on Environment and Public Works, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: This responds to your letter of June 20, 1988, concerning the position of the U.S. Fish and Wildlife Service (Service) on Titles I, II, III, IV, and VI of H.R. 4030 and H.R. 2513 as both were reported by the House Committee on Merchant Marine and Fisheries. In anticipation of final consideration by the House of Representatives, our respective staffs agreed to delay this response. As expected, the House passed these bills on July 26, 1988. This letter presents our position on the bills as passed.

H.R. 4030

Title I—This title makes a series of amendments to the Lacey Act Amendments of 1981 (16 U.S.C. 3371). The Service supports these amendments and believes that they will greatly assist wildlife law enforcement.

Section 101 would amend Section 3(a)(1) of the Act (16 U.S.C. 3372(a)(1)) to add to the list of underlying or predicate offenses "transportation or sale in violation of laws, treaties, or regulations of the United States or Indian tribal laws." Section 3(a)(2) of the Act, establishing violations of State or foreign laws as underlying offenses, includes transportation or sale, and this amendment would make the two sections parallel.

Currently, for example, only "taking" and "possessing" in violation of the Marine Mammal Protection Act are predicate offenses for purposes of the Lacey Act. The amendment would provide that transportation and sale violations of that Act would also be proper underlying offenses.

Section 101 also makes clear that the illegal sale or purchase of fish or wildlife includes the provision or obtaining of guiding, outfitting, or other services, or hunting or fishing licenses or permits, for illegal purposes. This amendment would overturn the decision in *United States* v. *Stenberg*, 803 F.2d 422 (9th Cir. 1986), which held that, the express legislative history notwithstanding (see S.

Rep. No. 97-123, p. 12, and H.R. Rep. No. 97-276, p. 21), the term "sale of wildlife" does not include the provision of guiding services.

This amendment will provide significant protection for wildlife, protection that Congress intended to be included under the Lacey Act. Guiding, outfitting, and transportation services related to hunting have become a substantial commercial enterprise. Some individuals providing these services will knowingly violate the law in order to please the customer and become well known. The very nature of the enterprise can have a significant impact on the resource.

Section 101 also amends the false labeling provisions in two ways. First, it redefines the violation to include falsifications related to articles intended to be imported, exported, transported, etc., as opposed to the current coverage of those items that have been imported, exported, transported, etc. The Service supports this amendment because it will aid enforcement without expanding the scope of the Act. Under the current law, the Service must wait until an item has been imported, etc., to charge a violation, when in fact the violation, false labeling, has already been accomplished. Secondly, Section 101 clarifies that false labeling itself is an offense, not requiring violation of an underlying law. The Service believes Congress did not intend that the act of false labeling be a violation only if applied to activities otherwise illegal. The labeling provision itself does not establish this limitation, but appears to be subject to it when read in conjunction with the civil and criminal penalty provisions (16 U.S.C. 3373). In conjunction with this, Section 102(a) of H.R. 4030 would provide that a civil penalty may be assessed for a knowing violation of the false labeling provision.

Section 102(b) would require that a felony violation be knowing and that it be an offense involving importation or exportation of fish or wildlife or plants, or the sale or purchase of fish or wildlife or plants with a market value of $350. In addition, misdemeanor criminal penalties would apply to any other knowing violation. The penalty amendments are necessary to give effect to the false labeling clarification. The Service believes that these amendments, taken as a whole, merely restate the original Congressional intent and will significantly add to the enforcement effort related to illegal shipments of wildlife and plants.

Section 103 would amend the provisions relative to the civil penalty appeal process. The current language requires that, to initiate review of a penalty, a "notice of appeal" be filed in the district court. This has caused confusion in some districts because, technically, they do not handle "appeals," rather they process "complaints." This amendment would substitute the word "complaint" for "notice of appeal." The Department of Justice has advised that this would clear up an unintended procedural problem.

Section 104 would add to the current enforcement powers the authority for persons enforcing the Act to arrest without a warrant for any offense against the laws of the United States committed in the presence of those persons, or for felony violations if there are reasonable grounds to believe that the person to be arrested has committed or is committing a felony. This would make the arrest authority of the Service coextensive with that of the National Marine Fisheries Service under the Magnuson Act.

In addition, because much of the Service's enforcement activity is undercover and involves illegal importations, agents are often confronted with illegal activities unrelated to wildlife. Without such arrest authority agents are placed in a position of risk to personal safety or to tort liability.

This amendment would also explicitly authorize warrantless searches and seizures. Some have argued that the Act only authorizes searches under warrants. The legislative history clearly indicates that the intent was to authorize searches in accordance with the Fourth Amendment to the Constitution. In addition, the Act does not explicitly authorize seizure of illegal fish, wildlife, plants, or other things. It does, however, reference the authority to hold these seized articles pending proceedings. The House committee report states that the Act was intended to authorize such seizures. Enactment of this provision will clarify this point.

H.R. 4030 also includes the requirement that exercise of all the enforcement powers must be in accordance with any guidelines that may be issued by the Attorney General.

Title II—Section 202 of this title would extend the authorization of appropriations, through fiscal year 1993, under the Act commonly known as the Sikes Act. We support enactment of this provision.

Title I of the Sikes Act authorizes the Service to assist the Department of Defense in planning, developing, maintaining, and coordinating fish and wildlife restoration, rehabilitation, and public recreation programs on military reservations. Such programs are required to be carried out in accordance with a cooperative plan mutually agreed upon by the Defense installation commander, the appropriate State conservation agency, and the Service.

Similarly, Title II of the law authorizes the development of conservation and rehabilitation programs on lands administered by the Department of Energy, the National Aeronautics and Space Administration, the U.S. Forest Service, and the Bureau of Land Management.

The Service's work with the Department of Defense began many years prior to enactment of the original Sikes Act in 1960. Primarily, this work related to fisheries management programs on military installations. The Service responded to requests from installation commanders interested in developing a source of recreational fishing on their bases. The Service provided technical assistance, conducted basic surveys, developed management plans, and provided fish from our Federal hatcheries for stocking ponds, lakes, and streams on military lands.

Passage of the Sikes Act formalized the cooperative efforts of the two agencies and, most importantly, gave Congressional recognition to the significant potential for fish and wildlife management and recreation on Department of Defense lands. Subsequent amendments have expanded the authority of the Act to include improving fish and wildlife habitats and protecting threatened or endangered species.

The most recent amendments, enacted in 1986, added to the Act the requirements that the military: (1) utilize a State/Federal Cooperative Plan as the fish and wildlife component of each multi-use natural resource plan, (2) use professionals trained in fish and wildlife management, (3) regularly review fish and wildlife plans, (4)

meet certain specified criteria when developing State/Federal Cooperative Plans, and (5) authorize the use of proceeds from forest product sales for the management of all natural resources and not just forestry management.

In the 16 months since the enactment of these amendments, the Service has contracted for and completed 12 fish and wildlife management plans on installations.

The Department of Defense controls almost 25 million acres, including 19 million acres manageable as habitat for fish and wildlife. These lands provide excellent hunting, fishing, and non-consumptive wildlife recreational opportunities. As a local example, Quantico Marine Base in Virginia is composed of 60,600 acres, with 53,000 acres being managed for fish and wildlife in ways compatible with the military mission. These lands provide approximately 15,000 hunter days and 8,000 angler days annually.

In Massachusetts, the Service is providing technical assistance in managing fish and wildlife resources at New Boston Air Force Station and Weymouth Naval Air Station. Special studies involving waterfowl and other migratory birds and large game are being conducted in Alaska at Fort Richardson, Adak, Shemya, and Amchitka.

Fort Dix and Picatinny Army Arsenal in New Jersey are managing fish populations for recreational fishing. At Fort Carson and Pinon Canyon, Colorado, training operations are being rotated to various sections of the base to reduce soil erosion and benefit wildlife. Extensive efforts have been expended to protect the habitat of the endangered Red Cockaded woodpecker at Eglin Air Force Base in Florida and at Fort Bragg in North Carolina. The China Lake Naval Weapons Center in California is stocking the endangered Mohave chub in installation ponds to increase the range of this species and ensure its protection.

Past cooperation between the Department of the Interior and the Department of Defense has enhanced the professional management of fish and wildlife on military lands. The Service is continuing to provide this technical assistance, but on a cost-reimbursable basis. The Department of Defense has reimbursed the Service approximately $1,400,000 over the last three years for various management efforts, including the development of 50 fish and wildlife management plans.

With appropriate planning and assistance, lands involved under the Sikes Act can be developed and managed for fish, wildlife, and other natural resource programs as a multiple or compatible use, depending upon the mission of the land holding agency. We remain eager to participate with the Department of Defense natural resource managers and State agencies in maximizing fish and wildlife management potential on military lands and therefore support reauthorization of the Sikes Act.

Section 201 of this Title would provide that States could use the fees collected under the Sikes Act to provide public access to program lands that have no existing access. The Department believes that this would be an appropriate use of these funds and accordingly supports enactment of this provision.

Title III—Section 301 of this Title would extend the authorization for appropriation of funds under the Act of October 4, 1961,

commonly referred to as the Wetlands Loan Act, until all authorized funds are expended. The current authorization will expire at the end of this fiscal year. Of the total $200,000,000 authorized, $2,561,000 remain.

Although no funding under this authorization has been requested for fiscal year 1989, the Service supports extending the authorization to preserve the opportunity to complete the expenditure of funds for this important purpose if future budgets permit.

Section 302 of the proposed legislation would amend section 5 of the Act of March 16, 1934 (16 U.S.C. 718e(c)), commonly known as the Migratory Bird Hunting and Conservation Stamp Act, to permit the Secretary to recover from reproduction sales proceeds the expenses of promoting the duck stamp licensing program.

In 1984 the Act was amended to authorize the Secretary of the Interior to license commercial reproduction of duck stamps and collect royalties from anyone who reproduces duck stamps for profit. The 1984 amendments required that the revenue be deposited into the Migratory Bird Conservation Fund. To date, the U.S. Fish and Wildlife Service has entered into 26 licensing agreements for commercial reproduction of duck stamps.

The authority provided by this Section would allow the Service to deduct marketing costs from the proceeds received from commercial reproduction activities. The amendment would also allow the Service to use these revenues to pay contractors for marketing services. Such contractors would be selected under competitive procedures to assure their qualifications for capitalizing on marketing potentials associated with the reproduction of duck stamp designs, as well as to assure the highest net return to the Fund.

We support enactment of this provision.

Title IV—Sections 401, 402 and 403 would provide for transfer of the Cohutta National Fish Hatchery to the University of Georgia without consideration. The Cohutta National Fish Hatchery was built in 1938 and has had no major improvements since the early 1960's. The hatchery produced warmwater fishes for stocking State and private waters in the southern Appalachian foothills of Georgia, Tennessee, and North Carolina.

In the early 1980's the U.S. Fish and Wildlife Service determined that the Cohutta hatchery did not contribute primarily or exclusively to high priority Federal fisheries responsibilities. After the Service determined that the Georgia Department of Natural Resources had no interest in assuming operation of the hatchery, the University of Georgia assumed operation in 1983 for research purposes under a long-term no-cost agreement.

The Service has no present or foreseeable need for this hatchery. However, the facility is useful to the University of Georgia's School of Forestry Resources for conducting fishery research. These provisions would allow the Cohutta National Fish Hatchery to contribute to fishery resources management while continuing to serve as a research facility.

The Administration supports this transfer of the Cohutta fish hatchery to the University because it is consistent with existing law.

Section 404 would rename the facility and aquarium at Millen, Georgia, known as the Millen National Fish Hatchery, as the Bo

Ginn National Fish Hatchery and Aquarium. The intent is to recognize the former Congressman for his efforts on behalf of the hatchery and fish and wildlife generally. While the Service's general policy in regard to its facilities is not to name them after individuals, we do not object to this provision.

Title VI—This title would make several clarifying amendments to the "Act to provide for the restoration of the fishery resources of the Klamath River Basin" (Public Law 99–552; 16 U.S.C. 460ss *et seq.*) The bill would modify the requirement in the Act that all decisions by the Klamath Fishery Management Council and Klamath River Basin Fisheries Task Force be made by unanimous vote of all members.

In general, the proposed amendment would authorize and require the Council and Task Force to establish their own practices and procedures. At a minimum, however, it would require that a quorum be present before the Council or Task Force could transact business and that establishment of long-term plans and policies and development of recommendations regarding harvest regulations, as required by subparagraphs (A) and (B) of section 3(b)(1) of the Act, be made by unanimous vote of the members present and voting.

These provisions would also authorize payment of travel expenses for non-governmental members of the Task Force, as is currently authorized for Council members. They would also clarify that governmental units cannot be reimbursed for the time their employees spend performing duties related to their membership on the Council or Task Force. The bill would delete a provision in section 6(b)(3) of the Act that specifies that only personal services involved in conducting "surveys, censuses, and other scientific studies" could be considered as in-kind contributions. Finally, it would make several technical and conforming amendments and would provide that the original Act could be cited as the "Klamath River Basin Fishery Resources Restoration Act."

The amendments would address the administrative problems that have surfaced since enactment of the Act and would, we believe, thereby facilitate its implementation. While there is no fundamental difficulty with the existing requirement that decisions be made by unanimous vote, the question of how to conduct business when members are absent or abstain from voting is a major concern in light of the statutory intent that decisions be made by consensus of all the members. In effect, the current procedure permits a "pocket veto." Beyond the delay and additional cost resulting from the need to poll absent members, the current requirement allows members to cast their votes in isolation, without the benefit of discussion among Council or Task Force members or the views of members of the public attending the meeting.

Experience to date, including comments from Council and Task Force members, suggests that while making key decisions by unanimous vote is desirable, the requirement for full consensus in all decisions is cumbersome and unnecessary. In our view, these amendments would represent a good balance between the consensus decision process envisioned in the Act and more efficient operation of the Council and Task Force. They overcome the fundamental difficulty of the current arrangement and create an incentive

for active participation in what are inherently difficult and controversial decisions.

We are very encouraged with the results thus far on the Klamath River. Good progress has been made and more can be expected. The council has already dealt with several difficult and potentially divisive issues in an exemplary fashion. In particular, we note its 1988 harvest recommendations to the Pacific Fishery Management Council and the other four fishery management agencies. We expect future problems to be addressed in the same constructive vein. In addition, with the advice and assistance of the Task Force, a good start has been made on the development of the Fishery Restoration Program authorized in section 2(a) of the Act. We believe that continuation of this effort will be aided by the amendments in Title VI and that they will contribute to the ultimate success of this endeavor.

H.R. 2513

H.R. 2513, a bill requiring a study of the Russian River Basin, was incorporated into H.R. 4030 as Title VII. We recommend enactment of this title if it is amended further as suggested herein.

As passed, this title would authorize a cooperative study of the fishery resources and habitats of California's Russian River Basin. The provisions authorize appropriations of $2 million during Fiscal Years 1990 and 1991 for a joint study of the Basin's fishery resources and habitats by the U.S. Fish and Wildlife Service, the Army Corps of Engineers and, if the State of California chooses to participate, its Department of Fish and Game.

The comprehensive, basin-wide study would develop baseline information based, to the maximum extent practicable, on the stream surveys and other data collected expressly for the study. Based on that information, goals and actions for maximizing the restoration and conservation of the Basin's fishery resources and habitats would be recommended. The Service would be the lead agency in preparing a report to be submitted to the Congress before October 1, 1991.

Restoration of a broad array of major, economically valuable fishery resources to full, self-sustainable productivity is an important responsibility of the Service. Nationwide, the Service has been involved for many years in a number of such fishery resource study and restoration efforts, including those related to Atlantic salmon, striped bass and shad on the Atlantic coast; striped bass on the gulf coast; lake trout in the Great Lakes; and salmon and steelhead on the Pacific coast and in Alaska. The most recent restoration initiative focuses on the fishery resources of the Klamath River Basin. Such efforts were identified as one of four major Service fishery responsibilities in its Statement of Responsibilities and Role.

Recently, we began developing guidance for Service involvement in studies that ascertain fishery resource restoration needs and opportunities. We are attempting to balance the responsibility of the States for fishery resources within their borders with the Federal interest in such resources. This balancing envisions that the State or States in the drainage basin to be studied would be active partners and receptive to Federal participation in the study. Addition-

ally, the United States government should bear only one-third of the study's cost.

Generally, the focus of studies undertaken would be on ecosystems supporting fishery resources recognized as involving a Federal responsibility, such as anadromous and interjurisdictional stocks, those affected by Federal water development activities, and those located on Federal lands. The scope of these studies would involve determining the causes of the fishery resources decline, identifying actions likely to be effective in correcting those problems and restoring the fishery resources, defining Federal responsibilities for the fishery resources involved and, subsequently, the nature and extent of Federal involvement in restoration efforts, and allocating the costs of corrective actions among the Federal and involved State governments and other appropriate entities.

Based on comments by the Service and others, these provisions would allow the California Department of Fish and Game, if the State chooses, to become a full participant, along with the Service and the Corps, in the study. Nevertheless, several additional amendments are necessary and desirable. Given California's management authority and the potential benefits to be derived by the State and other interests in the Russian River Basin from any subsequent restoration effort, the bill should be amended to require that the United States bear only one-third of the study's cost. The State and other responsible entities should assume the remaining two-thirds of this study's costs.

In addition, the 2-year period allowed to complete the study is inadequate, given the substantial annual and seasonal hydrologic variability of the Russian River, to obtain the new data required under section 2(1). A 4-year study would be preferable to ensure that effective use is made of this authorization and to significantly increase the likelihood of development of reliable information as the basis for recommended goals and actions.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

FRANK H. DUNKLE, *Director.*

ROLLCALL VOTES

Section 7(b) of rule XXVI of the Standing Rules of the Senate and the rules of the Committee on Environment and Public Works require that any rollcall votes taken during consideration of this bill be announced in this report.

The bill was ordered reported on September 23, 1988, by unanimous vote.

COST OF LEGISLATION

Section 403 of the Congressional Budget and Impoundment Control Act requires each bill to contain a statement of the cost of such bill prepared by the Congressional Budget Office. That report follows:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, September 29, 1988.

Hon. QUENTIN N. BURDICK,
Chairman, Committee on Environment and Public Works,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for H.R. 4030, an act to reauthorize and amend certain fish and wildlife laws, and for other purposes.

If you wish further details on this estimate, we will be please to provide them.

Sincerely,

JAMES L. BLUM, *Acting Director.*

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: H.R. 4030.

2. Bill title: An act to reauthorize and amend certain fish and wildlife laws, and for other purposes.

3. Bill status: As ordered reported by the Senate Committee on Environment and Public Works, September 23, 1988.

4. Bill purpose: Title II of H.R. 4030 would reauthorize wildlife management programs carried out on military reservations and other public lands under the Sikes Act. The act would authorize appropriations of $26.5 million annually for this purpose, including $1.5 million to the Department of Defense, $13 million to the Department of the Interior, and $12 million to the Department of Agriculture.

Title III would extend indefinitely the authorization for appropriations to the Migratory Bird Conservation Fund (MBCF). This would make available $2.65 million remaining from the original authorization ceiling of $200 million, which expires at the end of fiscal year 1988. This title would also permit the Secretary of the Interior to deduct certain marketing costs from commercial duck stamp royalties before depositing the proceeds in the MBCF.

Title V would authorize the acquisition of additional lands for inclusion in the Kilauea Point Wildlife Refuge in the State of Hawaii. The act would authorize the appropriation of $2.6 million for this purpose and for the construction of recreational and other facilities.

Title VII would direct the Director of the U.S. Fish and Wildlife Service and the Chief of the Corps of Engineers to undertake a study of the fishery resources and habitats of California's Russian River. The act would authorize the appropriation of a total of $2 million to the Department of the Army and the Department of the Interior for fiscal years 1990 and 1991.

Title VIII of the act would authorize the appropriation of $5 million for each of fiscal years 1989 and 1990 for grants under Section 11 of the Fish and Wildlife Conservation Act. These funds would be used to reimburse states for the costs of developing nongame fish and wildlife plans.

Other provisions of H.R. 4030 would amend various fish and wildlife acts, with no significant budget impact.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1989	1990	1991	1992	1993
Authorization level	38.8	31.5	26.5	26.5	26.5
Less: previous appropriation	−1.7				
Net additional authorization	37.1	31.5	26.5	26.5	26.5
Estimated outlays	27.5	32.8	28.1	26.6	26.5

The costs of the bill fall within budget function 300.

Basis of estimates: For purposes of this estimate, it is assumed that the full amounts authorized for each title will be appropriated for each fiscal year. Authorization levels are as stated in the act. Outlays have been estimated on the basis of historical spending patterns for these and similar programs.

To date, over $197 million of the $200 million authorized has been appropriated to the MBCF. CBO has assumed that the remaining $2.65 million would be appropriated for fiscal year 1989, once the authorization is extended. Title III would also provide that amounts equal to license marketing expenses be deducted from royalty revenues before they are deposited into the MDCF. The portion of royalties withheld would be used to reimburse the agency's operating account for marketing expenditures. This provision could reduce the funds available to be spent from the MBCF and could correspondingly increase the amounts available to be spent from the agency's operating account. These changes are likely to be small, and would have no net impact on federal outlays.

In the above table, the authorizaton level for Title V, $2.6 million, has been reduced by $1.7 million to reflect the appropriation already provided in 1988 for acquisition of the additional Kilauea acreage. The remaining $900,000 would be used in fiscal years 1989 through 1993 for the construction of necessary facilities at the refuge, including access roads, fences, and recreation facilities.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: On June 14, 1988, CBO prepared a cost estimate for H.R. 4030, a bill to strengthen fish and wildlife laws, as ordered reported by the House Committee on Merchant Marine and Fisheries on May 25, 1988. Other estimates were prepared on December 3, 1987 for S. 1143, a bill to provide for the conveyance of Frankfort National Fish Hatchery, and for other purposes (ordered reported by the Senate Committee on Environment and Public Works on November 10, 1987) and on June 28, 1988 for H.R. 2513, a bill to require that a study be undertaken regarding the fishery resources and habitat of the Russian River (California) Basin, as ordered reported by the House Committee on Merchant Marine and Fisheries on May 25, 1988. For provisions of these bills that are included in H.R. 4030 as ordered reported by the Senate Committee on Environment and Public Works, the CBO estimates are identical to our earlier ones.

9. Estimate prepared by: Deborah Reis.

10. Estimate approved by: C.G. Nuckols, for James L. Blum, Assistant Director for Budget Analysis.

REGULATORY IMPACT

Section 11(b) of rule XXVI of the Standing Rules of the Senate require the Committee to evaluate the regulatory impact of the reported bill.

It is not anticipated that this bill will impose any significant new regulatory burden.

CHANGES IN EXISTING LAW

In the opinion of the Committee, it is necessary to dispense with the requirements of subsection (4) of rule XXIX of the Standing Rules of the Senate in order to expedite the business of the Senate.

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Calendar No. 1031

100TH CONGRESS
2d Session

SENATE

REPORT
100-567

GROUND WATER RESEARCH, MANAGEMENT, AND EDUCATION ACT OF 1988

SEPTEMBER 30 (legislative day SEPTEMBER 26), 1988.—Ordered to be printed

Mr. BURDICK, from the Committee on Environment and Public Works, submitted the following

REPORT

[To accompany H.R. 791]

The Committee on Environment and Public Works, to which was referred the Act (H.R. 791) to authorize the water resources research activities of the U.S. Geological Survey, and for other purposes having considered the same, reports favorably thereon with an amendment and recommends that the Act, as amended, do pass.

GENERAL STATEMENT

BACKGROUND ON THE PROBLEM

Ground water is the source of drinking water for more than 50 percent of the total population in the United States, and for 97 percent of rural residents. According to the General Accounting Office [GAO], the use of ground water is increasing at a faster rate than the use of surface water. The United States used 34 billion gallons of ground water per day in 1950. In 1980 that figure almost tripled to 89 billion gallons of ground water each day. Ground water supplies 40 percent of American's agricultural irrigation and 26 percent of its industrial withdrawals (excluding electric powerplants).

Most ground water supplies in the United States are of good quality so that most of the water can be used without treatment. However, in many localities, contamination of ground water has caused well closures, public health problems and economic losses. In 1984 the Environmental Protection Agency reported that water in 8,000 private, public and industrial wells was unuseable or degraded from contamination.

S323-19

Sources of ground water contamination may be grouped into three main categories: (1) natural sources, (2) waste-disposal practices (intentional discharges by man), and (3) nondisposal sources due to human activities. In 1984 the Office of Technology Assessment [OTA] assembled a list of known ground water contaminants. OTA's research found over 200 substances present in ground water, including 175 organic chemicals and 50 inorganic chemicals, organisms, and radionuclides.

Natural sources of ground water contaminants include leaching and evaporation of ground water which concentrate the dissolved salts present in all ground water. This is especially a problem in the West and Southwest where irrigation practices may further exacerbate salinity problems. Salt water intrusion is another natural source of ground water contamination in coastal areas, which is accelerated by high rates of ground water withdrawal, such as in Florida. Naturally occurring radioactive materials such as radium and uranium may be present in ground water which percolates through formations containing high concentrations of these elements.

Waste disposal practices which may contaminate ground water include septic tanks and cesspools, injection wells which pump hazardous and nonhazardous wastes into the ground, land application of wastewater, and sludge disposal. Facilities designed to contain wastes or other products may discharge them through leaks or accidents. These include landfills which handle industrial wastes, municipal sanitary landfills, pipelines and vehicles which transport industrial byproducts and domestic wastes, and radioactive disposal sites.

Nondisposal sources resulting from human activities encompass such practices as irrigation, pesticide and fertilizer use, animal feedlots, deicing salts, nonpoint source runoff from urban and rural areas, mining operations and associated tailings piles, and underground storage tanks.

GROUND WATER RESEARCH

Ground water research is divided among various Federal, State, and private agencies (including the U.S. and State Geological Surveys, Environmental Protection Agency [EPA], the National Institutes of Health, the U.S. Department of Agriculture, the National Water Research Institutes, land grant colleges, and other universities).

Although to date there is no comprehensive Federal statute regulating ground water, the Clean Water Act, Safe Drinking Water Act, Resource Conservation and Recovery Act, Federal Insecticide, Fungicide and Rodenticide Act, The Comprehensive Environmental Response, Compensation, and Liability Act, and other Federal statutes all address ground water.

At the request of the Committee on Environment and Public Works, GAO completed in March of 1988, studies on States' management of ground water. In its survey of 57 States and territories, GAO found that no State lacked a statute enabling it to protect ground water quality, but that many States used general environmental or water statutes to protect ground water, rather than a

specific ground water statute. GAO reported 15 States with specific ground water statutes, and 22 States with written ground water plans. GAO listed 41 States with either numeric standards (which specify contaminant levels which should not be exceeded) or narrative standards (which prohibit certain discharges that might contaminate ground water). The number of contaminants which States regulate range from 14 to 160 (in New York). Over half the States relied on EPA's 22 primary drinking water standards for their own ground water standards. GAO concluded that States usually do not perform original research on toxicology or on health risks of ground water contaminants; instead they rely upon the Federal Government.

In responding to GAO, States reported that in general information from the Federal Government concerning ground water contaminants is inadequate. Some States indicate that lack of data has deterred them from implementing standards. For example, although over 260 contaminants have been identified in ground water, information remains incomplete for the 83 contaminants regulated by the Safe Drinking Water Act, passed in 1974.

According to States' responses to GAO, 12 categories of information are needed by States: human health effects, existing guidelines and standards, analytical chemistry, environmental fate of contaminants, presence in ground water, amount and location of production and disposal, monitoring methods, technological feasibility control, references for additional information, and descriptions of how to use the information for setting standards. What information is available is often scattered among numerous documents. About one third of the States also report a lack of technical expertise among staff to initiate and implement a ground water protection program.

LEGISLATIVE HISTORY

On February 23, March 24, and May 17, of 1988 the Subcommittee on Water Resources, Transportation, and Infrastructure held hearings on the need for Federal ground water legislation, at which testimony was heard from Federal, State and local officials, environmental groups, industry and agricultural interests. In addition, the committee received hundreds of comments in the form of letters and responses to a committee questionnaire.

Committee bills pending during all or part of the session included S. 20, The Ground Water Protection Act, introduced January 6, 1987, sponsored by Senators Moynihan, Burdick, Mitchell, Baucus, and Lautenberg; S. 1105, The Ground Water Research Act introduced April 28, 1987 sponsored by Senators Burdick, Durenberger, Moynihan, Mitchell, Baucus, Chafee, Stafford Breaux, and Graham; and S. 2091 and S. 2092, sponsored by Senators Durenberger, Baucus, Stafford, and Chafee.

This legislation is drawn from portions of those bills, and influenced by the legislation sent to this committee earlier in this session from the House, H.R. 791, where the bill was reported by five committees.

This legislation is a balanced and mission-oriented bill; it accomplishes three main objectives:

(1) It establishes an Interagency Ground Water Task Force in the office of the President to coordinate the Federal agencies' research, to identify gaps in research, and to consult with State and local governments regarding information which States require to manage ground water programs.

(2) It authorizes research programs and studies at EPA, the USGS, and the Department of Agriculture which we believe are essential to advance our understanding of ground water contamination and of control technologies for ground water pollution.

(3) It provides for a 50 percent Federal-State matching grant program to assist States in their ground water management efforts. The monies may be used by the States for planning, mapping, identification, and control of sources, research, monitoring, enforcement, and education. The States have the widest latitude to use these moneys to suit their own varied and individual needs.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title.

Section 2. Findings.—The findings contain a statement that nothing in this act shall be construed to change existing State water rights.

Section 3. Definitions.—Key terms are defined in this section.

TITLE I—COORDINATION OF FEDERAL GROUND WATER RESEARCH AND EDUCATION PROGRAMS

Section 101. Duties of the President.—Provides that the President shall assure coordination of ground water research and directs the President to establish an Interagency Ground Water Research Task Force.

Section 102. Interagency Ground Water Research Task Force.—Outlines general authority for the Interagency Ground Water Research Task Force. The Task Force is to be made up of key Federal agencies involved in ground water research and is to be chaired by the Administrator of the EPA. The Task Force is to identify research data needs, recommend research priorities, facilitate interagency coordination, and consult with State and local governments concerning ground water research needs.

The Task Force is to submit an annual report to Congress which is to serve as a management plan for Federal Government research of ground water and is to identify ground water policy issues on which research is needed. Each participating agency is to submit a research plan to the Task Force on an annual basis.

In section 102(d) the principal Federal agencies involved in ground water research and their principal roles are defined. This section does not limit the scope of research of any single agency; it is recognized that research programs may overlap.

The committee notes that only agencies with major ground water programs are involved on the Interagency Ground Water Research Task Force. A logical representative for the Department of Defense would be the Corps of Engineers.

Section 103. Advisory Committee.—Establishes an Advisory Committee on Ground Water Research to advise the President and the Interagency Task Force on ground water research issues and needs. The Advisory Committee is to be made up of not more than 15 individuals representing States and local government, environmental organizations, agriculture, industry, and other groups. At least five members of the committee will represent State or local governments.

Section 104. Clearinghouse Committee.—Provides for establishment of a Clearinghouse Committee to assure coordination of data and information systems relating to ground water. This committee shall make recommendations for a National Ground Water Hotline and identify a Federal public information officer to respond to public inquiries.

This section also provides that each participating agency of the Interagency Task Force is to establish a technology and information center to make available reports and related material concerning ground water research.

Section 105. Education Committee.—Establishes an Education Committee to be chaired by the National Science Foundation and made up of individuals with scientific and educational expertise related to ground water research. The Committee is to evaluate ground water related programs for public education and training of professionals and technicians and to make recommendations to strengthen such programs.

Section 106. Authorizations.—Authorizes to be appropriated $3 million for implementation of section 101, 102, 103, 104, and 105 for fiscal years 1989 through 1993.

Section 107. Water Research Institutes.—Amends P.L. 98-242 which reauthorizes a broad research program in water resources, including quantity and quality issues, for 54 Water Research Institutes established in each State and territory.

The research programs are to be evaluated every 5 years by the Secretary of Interior. Grants to each institution from a $10 million authorization are used as seed money for research programs and are matched dollar-for-dollar by the Institutes. A $10 million authorization for a competitive grant program for research on water problems of a national scope amends the preexisting $20 million authorization level. Appropriations have always fallen far short of the original authorization levels. An amendment to the Water Resource Research Act authorizes $5 million for a competitive 50-50 matching grant program to focus on regional or interstate water problems and issues.

TITLE II—GROUND WATER RESEARCH PROGRAMS OF THE FEDERAL GOVERNMENT

Part A—Programs of the Environmental Protection Agency

Section 201. Authority.—This section establishes a general ground water research program at the Environmental Protection Agency. The Administrator is given general authorities to conduct research, cooperate with others doing research, make grants, enter into contracts, acquire patents and so on.

Six priorities are established for the research program:

1. fate and transport of contaminants;
2. control technologies for sources;
3. health and environmental effects of ground water contaminants;
4. analytical procedures for ground water monitoring;
5. remediation and treatment of contaminated ground water; and
6. waste minimization.

Twenty-two specific areas of investigation are listed including: health and environmental effects of contaminants; exposure assessment; hydrogeologic studies; transport and fate of contaminants; analytical methods; control of discharges; and remediation and treatment.

The program is to include development of techniques for detection, prevention and correction of ground water contamination and is to go beyond basic research to demonstration projects that aid in technology transfer.

Section 202. Research Committee and Management Plan.—Research programs at EPA are generally monitored and guided by media-specific research committees. There are currently five such committees (air, waste, water, energy, and toxics). This section adds a sixth group for ground water research. The group is to be jointly chaired by the Office of Water and the Office of Research and Development. Members of the committee are drawn from offices within EPA.

The research committee is to issue a report annually which is to be a 5-year (the preceding fiscal year, the current fiscal year, and 3 succeeding fiscal years) plan and which is to serve as the management tool for the ground water research program. The report is to include a list of upcoming ground water policy decisions and the research needs of the policymakers with respect to those decisions. The report is to be published in draft form for comment and the final report is to be transmitted to Congress each April 15.

This section provides for the appointment of a ground water research manager in ORD who is to provide central direction for the ground water research program.

Section 203. Control Technologies.—This section requires EPA to establish a program to develop control technologies for sources of ground water contaminants in various categories. In general, EPA will be assisting persons who have "invented" control technologies with the "demonstration" and "dissemination" of those techniques.

EPA is to make a biennial solicitation for proposals. The legislation includes criteria for project selection including:

1. potential for the technology to effectively control sources of ground water contaminants;
2. the capability of the person proposing the demonstration to complete the project;
3. the applicability of the technology under a wide range of circumstances;
4. financial support from other sources; and
5. the capability of the developer to disseminate the technology to the public.

EPA is to provide assistance for at least 10 proposals each year. Assistance is generally limited to 50 percent of the project cost, but

the Administrator is authorized to provide full Federal funding for basic and essential research projects. EPA is required to make every effort to disseminate the control technologies proven effective. The patent policy of Title IV of this bill applies to technologies developed.

Section 204. List of Contaminants.—This section requires EPA to prepare and update a list of ground water contaminants and to develop research programs for such contaminants.

The initial list of contaminants is to include: each substance for which a primary drinking water regulation is required under the Safe Drinking Water Act; contaminants for which a health advisory has been issued; contaminants listed pursuant to section 104(i) of CERCLA; contaminants listed pursuant to section 307 of the Clean Water Act; and pesticides with a potential to leach to ground water. There is considerable overlap among these lists.

The Director of the National Toxicology Program is to propose a research program for each of the contaminants listed which describes the research necessary to adequately characterize the risk to human health and the environment as the result of the presence of the contaminant in ground water. After public comment on the research program, the Administrator is to make needed changes and publish the program. The Administrator is to assure that the research program is implemented and shall, assure coordination with the Safe Drinking Water Act (42 U.S.C. Sec. 300F et seq.) the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. Sec. 9601 et seq.), the Toxic Substances Control Act (15 U.S.C. Sec. 2601 et seq.), the Resource Conservation and Recovery Act (42 U.S.C. Sec. 6901 et seq.) and the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Sec. 136 et seq.). The Administrator may also use funds authorized under section 111(m) of CERCLA to conduct such research.

Section 205. Ground Water Contaminant Risk Assessment.—This section requires the Administrator to prepare risk assessment documents on 30 contaminants within 24 months and an additional 30 contaminants within an additional 36 months. The risk assessments are to serve a role comparable to criteria documents now published under authority of the Clean Water Act.

The risk assessments are to include:

1. a description of recent scientific information about contaminant;
2. factors which contribute to the effects of the contaminant on human health and the environment;
3. clarification of the assumptions and uncertainties in the science related to the contaminant;
4. an assessment of the association of the contaminant with various human activities, and
5. an assessment of a comparison with risks posed by other contaminants.

Section 206. Contaminant Source Surveys.—This section requires the Administrator to conduct a series of surveys of major sources of ground water contamination similar to the National Pesticide Survey which the Agency is now conducting. The purpose of the surveys is to determine whether additional controls on sources in

the category are necessary to adequately protect ground water supplies.

The other source categories to be covered by the surveys include septic tanks and cesspools; landfills, surface impoundments, and wastepiles; class V injection wells; fertilizer applications; irrigation return flows; publically owned treatment works; light industry; and transportation corridors. Governors may petition EPA to add categories to this list.

Prior to conducting any survey, EPA is to complete (or update) a health advisory for each contaminant which the Agency expects to find in drinking water wells as part of the survey. This information is to be made available to the owners of wells when contamination is found. In addition, referrals for corrective action or compliance action under the Safe Drinking Water Act is to be taken where contamination is found.

Section 207. Study of Health Effects of nitrates and Nitrosamines.—This section authorizes a study of the health effects of nitrates (a widespread ground water contaminant) and nitrosamines (a metabolite of nitrates thought to be carcinogenic).

Section 208. Study of Abandoned Wells.—This section authorizes a study, to be completed by September 1, 1989 of abandoned production and injection wells, including former drinking water wells, and the impact of abandoned wells on ground water quality. The study is to include recommendations on the most cost effective steps which can be taken to assure that further damage to ground water by abandoned wells is prevented. The purpose of this study is not to gather new information on the impact of wells on ground water quality, but rather to examine the options available for preventing further degradation including requirements that wells be capped on a specific schedule.

Section 210. Ground Water Research Institutes.—This section authorizes EPA to establish and provide grant assistance to eight, regional ground water research institutes at universities across the country. The legislation provides criteria for selecting the locations of the institutes. Federal funding is limited to 50 percent of the research program. The institutes must submit an annual proposal and report. The bill provides for an explicit, on-site review of the institutes every 5 years. The Institutes are to be selected and evaluated by the Administrator acting jointly with the Secretary of the Interior, but are to be funded and managed on a regular basis by EPA.

The institutes should be located, when possible, in areas that include diverse climatic and geologic features in order to reflect the diversity of national ground water resources. For example, consideration should be given a location in a glaciated, nonmountainous northern plains state which includes significant glacial lake, glacial plain, prairie coteau and nonglaciated dry-land farming areas. Such a location should also have climatic variables representative of all the biomes of the Northern Great Plains. The institutes must have significant regional expertise in hydrological and hydrochemical studies.

Part B—Programs of the Department of Interior

Section 221. Amendment/Authority.—Authorizes a groundwater research program within the U.S. Geological Survey. This program builds on an existing research program at the Geological Survey that includes studies of both surface water and ground water. The current authorization is increased by $10 million in this section to $160 million total.

Section 222: Ground Water Inventory Report.—This section directs the United States Geological Survey to prepare an inventory of the ground water resources based on existing data, and an evaluation of the adequacy of existing ground water data collection and monitoring programs conducted by Federal, State, and local governments. The report for this section is required wihin 12 months.

Section 223. National Assessment of Ground Water Quality.—This section authorizes the United States Geological Survey to develop, based on the information and recommendations of the inventory required in section 222, an assessment of the ground water quality. The assessment is to be based on a nationwide sampling and monitoring program and to identify changes and trends in the nation's ground water quantity and quality.

Section 224. Authorities of the Administrator.—This section states that nothing in this part shall limit the authorities of the Administrator or other head of any Federal agency.

Section 225. Research Program of the Bureau of Reclamation.—This section directs the Department of Interior, acting through the Bureau of Reclamation, to research the effects of existing and proposed water projects on the quantity and quality of ground water and surface waters. $500,000 is authorized for fiscal year 1989 and 1990.

Section 226. Research Program of the Bureau of Mines.—This section authorizes the Bureau of Mines to study the impact of mining on ground water quality with an authorization of $1 million per fiscal year. The committee recognizes that the U.S. coal mining industry through adherence to the requirements of the Surface Mining Control and Reclamation Act and its attendant regulatory program administered by the Office of Surface Mining, already minimizes the impact of such operations on both ground water quality and quantity.

Part C—Ground Water Research Program of the Department of Agriculture

Several Acts of Congress created a system of land ownership and land development designed to populate the country and produce the food for a growing Nation. The organization of the Department of Agriculture, Land-Grant Colleges, the State Agricultural Experiment Stations, and Cooperative Extension System, were established by the Morrill Acts of 1890, the Hatch Act of 1887, and the Smith-Lever Act of 1914, respectively. This system established for research and education should be used to address the problems of ground water quality resulting from agricultural practices.

Section 231. Department of Agriculture.—This section authorizes the Secretary of Agriculture to develop a research program with the participation of the Agricultural Research Service and the Co-

operative State Research Service. The plan to be submitted to the Interagency Ground Water Research Task Force and include an evaluation of the current level of effort, a listing of major policy decisions and practices that may impact the quality of ground water. Research and demonstration projects developed by the Department of Agriculture are to include surveys and studies relating to the effects, extent, prevention, detection and correction of ground water contamination resulting from the application or storage of agricultural chemicals. The Department of Agriculture is also authorized to provide technical assistance to the States and local governments regarding problems and issues affecting ground water quality. Research programs are to include fate and transport of organic and inorganic substances, soil management practices, modeling of ground water and chemical migration, sampling methodologies, biological alternatives to chemicals, water management and tillage practices, chemical disposal, and development of new chemical products to improve the efficiency, and application requirements.

Section 233. Agricultural Nitrogen Best Management Practices.—This section provides for the establishment of a Nitrogen Best Practices Committee to develop a study and education program on best management practices to minimize the impact of agricultural nitrogen on public health and ground water quality.

Section 234. Efficient Use of Nutrients.--This section directs the Secretary of Agriculture to conduct research on practices, methods, and techniques for improving the efficiency of fertilizer uses in agriculture.

Section 235. Agricultural Drainage Well Study.—This section authorizes a study of agricultural draining wells and their impact on ground water quality, and includes a provision for the study of alternative drainage methods.

Section 236. Education.—This section directs the Secretary of Agriculture to establish a public education program for the dissemination of information to farmers and rural residents, and a training program for professionals and technicians in issues related to agricultural practices, methods, alternatives and the ground water quality.

The appropriations authorized to carry out the activities of section 236 are not meant to be limiting appropriations to the Extension Service in implementing education programs that address water quality issues. The appropriations authorized in this section are intended to provide for strengthening and expanding programs that address issues associated with ground water quality.

Part D—Additional Provisions

Section 241. Lake Okeechobee Ecosystem Research System.—This section directs the Administrator in cooperation with the Secretary of the Army to study the relationship between the quality and quantity of surface and ground waters and the control of aquatic plants. Authorizations are incremental over 3 years, starting at $5 million and increasing a million each year to $7 million.

Section 242. Western Center and Research Program.—This section establishes a Western Center for Nuclear and Ground Water Research within Nevada to evaluate the potential for leaching of ra-

dionuclides and the migration of these contaminants in ground water in an arid climate. The Center shall review existing and proposed programs and projects relating to containment of radioactive waste.

TITLE III—STATE GROUND WATER STRATEGIES

Section 301. State Ground Water Strategies.—This provision authorizes the Federal Government to provide 50 percent matching grants to States for planning and implementation of State strategies for ground water management. The States may use the grants for planning, mapping, identification, and control of sources, research, monitoring, enforcement of permits or standards or education. There is no requirement that any State program contain any specific element(s).

Grant monies are allotted based on the amount and severity of contamination in the State, the geographic area, and the number of persons relying on ground water for drinking water. Each State is to receive a minimum of not less than $75,000 of the funds appropriated in a fiscal year.

Section 302. Assistance to Small Communities for Radium Contamination in Ground Water.—This section directs the Administrator to assist local governments in demonstrating mitigation technologies for radium contamination in ground water. Assistance is used to finance acquisition and installation of technologies that would remove radium from drinking water.

Section 303. Extension of Wellhead Protection Area Plans.—Extends by 2 years the time for States to designate wellhead protection areas.

Section 304. Extension of Sole Source Aquifer Protection Areas.—Extends by 2 years the time for States to designate areas for sole source aquifer protection under the Safe Drinking Water Act, passed by the 99th Congress.

TITLE IV—PATENT POLICY

This title assures that the Environmental Protection Agency will have a consistent patent policy for developing new technologies for the source controls, monitoring, or other applications related to ground water protection, maintenance, and restoration.

This title is based on the existing statute (Chapter 38 of Title 35 of the U.S. Code) and has been changed only to make it specifically apply to EPA.

HEARINGS

Hearings were held before the Subcommittee on Water Resources, Transportation, and Infrastructure on February 23, March 24, and May 17, 1988.

ROLLCALL VOTES

Section 7(b) of rule XXVI of the Standing Rules of the Senate and the rules of the Committee on Environment and Public Works require that any rollcall votes taken during consideration of this bill be announced in this report.

On September 23, 1988 the bill was ordered reported unanimously by a voice vote.

Regulatory Impact

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact of the reported bill: It is not expected that there will be any new regulatory burdens created by the reported bill.

Cost of Legislation

Section 403 of the Congressional Budget and Impoundment Control Act requires each bill to contain a statement of the cost of such bill prepared by the Congressional Budget Office. That report follows:

U.S. Congress,
Congressional Budget Office,
Washington, DC, September 29, 1988.

Hon. Quentin N. Burdick,
Chairman, Committee on Environment and Public Works, U.S. Senate, Washington, DC.

Dear Mr. Chairman: The Congressional Budget Office has prepared the attached cost estimate for H.R. 791, the Groundwater Research, Management, and Education Act of 1988.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

James L. Blum,
Acting Director.

Congressional Budget Office Cost Estimate

1. Bill number: H.R. 791.
2. Bill title: The Groundwater Research, Management, and Education Act of 1988.
3. Bill status: As ordered reported by the Senate Committee on Environment and Public Works, September 23, 1988.
4. Bill purpose: H.R. 791 would authorize activities related to the nation's groundwater resources. Title I would authorize appropriations to the Secretary of the Interior for groundwater research and education programs, and for coordination of federal groundwater research.

Title II would provide general authorizations for federal groundwater research programs at the Environmental Protection Agency [EPA], the U.S. Geological Survey [USGS], and the U.S. Department of Agriculture [USDA]. Title II would also require the EPA to conduct specific groundwater research programs in Florida and Nevada.

Title III would authorize federal grants to states for developing groundwater strategies. Title IV would establish a patent policy for EPA groundwater research.

5. Estimated cost to the Federal Government:

[by fiscal year, in millions of dollars]

	1989	1990	1991	1992	1993
TITLE I					
Authorization level	18	28	28	28	28
Estimated outlays	17	27	28	28	28
TITLE II					
Authorization level:					
Specific	315	312	312	309	309
Estimated	2	2	2	2	2
Total	317	314	314	311	311
Estimated outlays	240	286	303	308	311
TITLE III					
Authorization level	50	50	50	50	50
Estimated outlays	30	46	49	50	50
TOTAL, H.R. 791					
Authorization level	385	392	392	389	389
Estimated outlays	287	359	380	386	389

The costs of this act would be in budget functions 300 and 350.

Basis of estimate: The specific authorization levels shown in the table are as stated in the bill. This estimate assumes the full amounts authorized would be appropriated for each fiscal year. The estimated outlays for Title IV assume that states will fully participate in the grant program authorized there. For other titles, the estimated outlays are based on historical spending patterns.

The estimated authorization level shown for Title II contains $1 million annually for the EPA's assistance to the Western Center for Nuclear and Ground Water Research (authorized by section 263), and $1 million annually for the agricultural nitrogen research program authorized by section 234. These estimates are based on information provided by the EPA and USDA, respectively. No amounts were included for the abandoned well study required by section 208, because we expect that this study could be completed at no significant additional cost to the government.

6. Estimated cost to State and local governments: Many of the programs authorized by this act would provide grants and technical assistance to state and local governments. Of the total amount authorized, roughly $70 million for 1989 and $80 million annually for 1990 to 1993 would fund these types of grant programs. These grants would be matching grants, requiring one nonfederal dollar for each federal dollar contributed.

7. Estimate comparison: None.

8. Previous CBO estimate: CBO has previously prepared estimates for other versions of H.R. 791. These include an estimate prepared on May 7, 1987 for H.R. 791 as ordered reported by the House Committee on Interior and Insular Affairs, May 6, 1987; an estimate prepared on September 29, 1987 for H.R. 791 as ordered reported by the House Committee on Energy and Commerce, September 22, 1987; an estimate on September 30, 1987 for H.R. 791 as ordered reported by the House Committee on Public Works and Transportation, September 23, 1987; an estimate prepared on Sep-

tember 30, 1987 for H.R. 791 as ordered reported by the House Committee on Science, Space, and Technology, September 29, 1987; and an estimate prepared on September 30, 1987 for H.R. 791 as ordered reported by the House Committee on Agriculture, September 30, 1987.

9. Estimate prepared by: Hsin-Hui Hsu, Deb Reis, and Michael Sieverts (226–2860).

10. Estimate approved by: C. G. Nuckols for James L. Blum, Assistant Director for Budget Analysis.

CHANGES IN EXISTING LAW

In compliance with section 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows: Existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman:

PUBLIC LAW 98–242 98TH CONGRESS

AN ACT To authorize an ongoing program of water resources research, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I

SEC. 101. This Act may be cited as the "Water Resources Research Act of 1984".

* * * * * * *

SEC. 104. (a) * * *

(b) Each institute shall—

[(1) plan, conduct, or otherwise arrange for competent research with respect to water resources, including investigations and experiments of either a basic or practical nature, or both; promote the dissemination and application of the results of these efforts; and provide for the training of scientists and engineers through such research, investigations, and experiments, and]

(1) plan, conduct, or otherwise arrange for competent research that fosters (A) the entry of new research scientists into the water resources fields, (B) the training and education of future water scientists, engineers, and technicians, (C) the preliminary exploration of new ideas that address water problems or expand understanding of water and water-related phenomena, and (D) the dissemination of research results to water managers and the public, and

(2) cooperate closely with other colleges and universities in the State that have demonstrated capabilities for research, information dissemination, and graduate training in order to develop a statewide program designed to resolve State and regional water and related land problems.

Each institute shall also cooperate closely with other institutes and other organizations in the region to increase the effectiveness of the institutes and for the purpose of regional coordination.

[(c) From the sums appropriated pursuant to subsection (f) of this section, the Secretary shall make grants to each institute to be matched on a basis of no less than one non-Federal dollar for every Federal dollar during the fiscal years ending September 30, 1985, and September 30, 1986, one and one-half non-Federal dollars for each Federal dollar during the fiscal years ending September 30, 1987, and September 30, 1988, and two non-Federal dollars for each Federal dollar during the fiscal year ending September 30, 1989.]

(c) From the sums appropriated pursuant to subsection (f) of this section, the Secretary shall make grants to each institute to be matched on a basis of no less than one non-Federal dollar for every Federal dollar during the fiscal year ending September 30, 1989, and each of the next four following fiscal years, such sums to be used only for the reimbursement of the direct cost expenditures incurred for the conduct of the water resources research program.

* * * * * * *

[(e)(1) The Secretary shall establish procedures for a careful and detailed eveluation of each institute to determine that the quality and relevance of its water resources research and its effectiveness as an institution for planning, conducting and arranging for research warrants its continued support under this section in the national interest. The evaluation of each institute shall be made by a team of knowledgeable individuals including employees of the Department of the Interior, university faculty or administrators, water research institute directors from other institutes, State or local water resource agency personnel, and private citizens selected for this purpose. The Secretary may also secure the cooperation of the National Research Council/National Academy of Science. The evaluation team shall visit the institute and shall assess the scientific quality of its research program, the potential effectiveness of its research in meeting water resource needs, and the demonstrated performance in making research results available to users in the State and elsewhere. Criteria for making the determination that an institute is an effective instrument for water resources research shall include the following: accreditation in sufficient disciplines to successfully mount a multidisciplinary research program; sufficient resources, including laboratory, library, computer, and support facilities; a sufficiently close administrative relation and physical proximity to the university and to all the parts of it needed to provide an effective working relationship with researchers in a wide range of disciplines; and institutional commitment to the support and continuation of an effective water research program.

[(2) The Secretary shall arrange for each of the institutes supported under this section to be evaluated under this subsection within two years after its establishment and to be reevaluated at intervals not to exceed four years. If, as a result of any such evaluation, the Secretary determines that an institute does not qualify for further support under this section, then no further grants to the institute may be made until the institute's qualification is reestablished to the satisfaction of the Secretary.]

(e) The Secretary shall conduct a careful and detailed evaluation of each institute at least once every 5 years to determine that the

quality and relevance of its water resources research and its effectiveness as an institution for planning, conducting, and arranging for research warrants its continued support under this section. If, as a result of any such evaluation, the Secretary determines that an institute does not qualify for further support under this section, then no further grants to the institute may be made until the institute's qualifications are reestablished to the satisfaction of the Secretary.

(f)(1) For the purpose of carrying out this section, there is authorized to be appropriated to the Secretary the sum of $10,000,000 for each of the fiscal years ending [September 30, 1985, through September 30, 1989,] *September 30, 1989 through September 30, 1993,* such sums to remain available until expended.

(2) Any sums appropriated under this subsection but which fail to be obligated by the close of the fiscal year for which they were appropriated shall be transferred by the Secretary and available for obligation during the succeeding fiscal year under the terms of [section 106 of this Act.] *section 105 of this Act.*

SEC. 105. (a)(1) In addition to the grants authorized by section 104 of this Act, the Secretary is authorized to make grants[, on a dollar-for-dollar matching basis,] to the institutes established under such section, as well as other qualified educational institutions, private foundations, private firms, individuals, and agencies of local or State government for research concerning any aspect of a water resource-related problem which the Secretary may deem to be in the national interest. Such grants shall be made with such advice and review by peer or other expert groups of appropriate interdisciplinary composition as the Secretary deems appropriate on the basis of the merits of the project and the need for the knowledge such project is expected to produce upon completion.

* * * * * * *

[(3) In cases where the Secretary determines, in accordance with criteria established by him, that research under this section is of a basic nature which would not otherwise be undertaken, the Secretary may approve grants under this section with a matching requirement other than that specified in paragraph (1) of this subsection.]

[SEC. 106. (a)(1) The Secretary shall make grants or contracts in addition to those authorized under sections 104 and 105 to educational institutions, private firms, private foundations, individuals, and agencies of local or State governments for technology development concerning any aspect of water-related technology which the Secretary may deem to be of State, regional, and national importance, including technology associated with improvement of waters of impaired quality and the operation of test facilities. Such grants or contracts shall be made on the basis of the merit and feasibility of the project based on expert evaluation as deemed appropriate by the Secretary, taking care to protect proprietary information of private firms or individuals associated with the technology.

[(2) The Secretary may establish any condition for the matching of funds by the recipient of any grant or contract under this section which the Secretary considers to be in the best interest of the Nation considering the technology needs for water resources in the Nation.

[(b) Each application for a grant or contract under this section shall state the nature of the project to be undertaken, the qualifications of the personnel who will direct and conduct it, the facilities of the organization performing the technology development, the importance of the project to the Nation, region, and State concerned, and the potential benefit to be accrued from the development.

[(c)(1) There is authorized to be appropriated to the Secretary the sum of $6,000,000 for the purpose of carrying out this section for each of the fiscal years ending September 30, 1985, through September 30, 1989, such sums to remain available until expended.

[(2) In addition to sums available under the terms of paragraph (1) of this subsection, the Secretary is also authorized to obligate funds under this section if such funds are transferred under the terms of section 104(f)(2) of this Act.]

* * * * * * *

SEC. 108. The type of research and development to be undertaken under the authority of sections 105 and 106 of this Act and to be encouraged by the institutes established under section 104 of this Act shall include the following:

(1) Aspects of the hydrologic cycle;

(2) Supply and demand for water;

(3) Demineralization of saline and other impaired waters;

(4) Conservation and best use of available supplies of water and methods of increasing such supplies;

(5) Water reuse;

(6) Depletion, *contamination,* and degradation of groundwater supplies;

(7) Improvements in the productivity of water when used for agricultural, municipal, and commercial purposes;

(8) The economic, legal, engineering, social, recreational, biological, geographic, ecological, and other aspects of water quality and quantity problems;

(9) Scientific information dissemination activities, including identifying, assembling, and interpreting the results of scientific and engineering research on water resources problems; and

(10) Providing means for improved communication of research results, having due regard for the varying conditions and needs for the respective States and regions.

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